

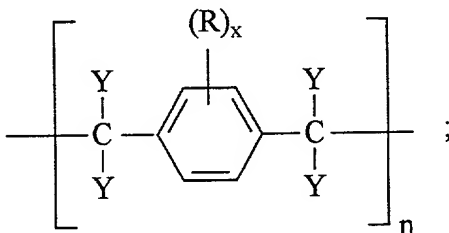
WHAT IS CLAIMED IS:

1. A stent-graft endoprosthesis comprising:

a seamless tubular graft of biocompatible polymeric material having a wall thickness defining a luminal surface and an exterior surface;

a radially expandable coated stent securably, circumferentially and axially disposed over said exterior surface, wherein said coated stent is coated with said biocompatible polymeric material;

wherein said biocompatible polymeric material comprises poly-para-xylylene having a formula of



wherein n is from about 10 to about 10,000,

x is from 0 to 4,

R, which can be the same or different, is alkyl, aryl, alkenyl, amino, cyano, carboxyl, alkoxy, hydroxylalkyl, carbalkoxy, hydroxyl, nitro, chlorine, bromine, iodine and fluorine, and

Y, which can be the same or different, is hydrogen, chlorine, bromine, iodine and fluorine.

2. The endoprosthesis of claim 1 wherein Y is hydrogen, x is from 0 to 2 and, when x is 1 or 2, R is chlorine.

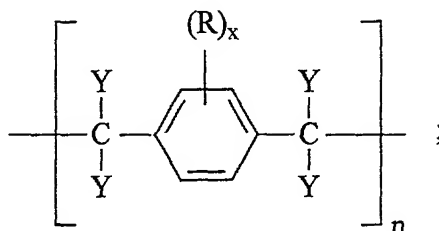
3. An implantable stent-graft device comprising:

a seamless and self supporting tubular non-textile graft of biocompatible polymeric material having a wall thickness of about 10 microns to about 100 microns defining a luminal surface and an exterior surface; and

a radially expandable stent securably disposed over portion of said exterior surface.

4. The device of claim 3 wherein said wall thickness is from about 10 microns to about 50 microns.

5. The device of claim 3 wherein said polymeric material comprises poly-para-xylylene having a formula of



wherein n is from about 10 to about 10,000,

x is from 0 to 4,

R, which can be the same or different, is alkyl, aryl, alkenyl, amino, cyano, carboxyl, alkoxy, hydroxylalkyl, carbalkoxy, hydroxyl, nitro, chlorine, bromine, iodine and fluorine, and

Y, which can be the same or different, is hydrogen, chlorine, bromine, iodine and fluorine.

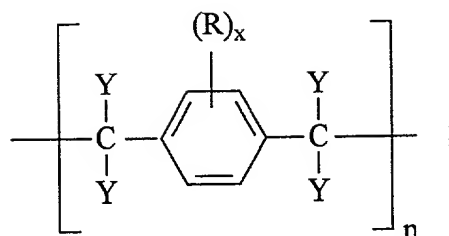
6. The endoprosthesis of claim 5 wherein Y is hydrogen, x is from 0 to 2 and, when x is 1 or 2, R is chlorine.

7. The endoprosthesis of claim 5 wherein said stent is coated with said poly-para-xylylene.

8. A stent-graft endoprosthesis comprising:

a seamless tubular non-textile graft of biocompatible polymeric material having a wall thickness of about 10 microns to about 250 microns defining a luminal surface and an exterior surface; and

a radially expandable stent securably disposed over portion of said exterior surface; wherein said polymeric material comprises a poly-para-xylylene having a formula of



wherein n is from about 10 to about 10,000,

x is from 0 to 4,

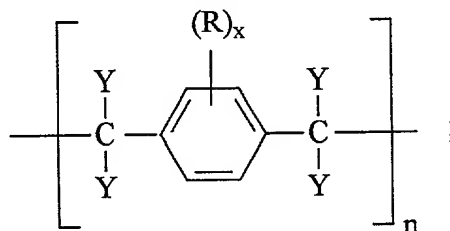
R, which can be the same or different, is alkyl, aryl, alkenyl, amino, cyano, carboxyl, alkoxy, hydroxylalkyl, carbalkoxy, hydroxyl, nitro, chlorine, bromine, iodine and fluorine, and

Y, which can be the same or different, is hydrogen, chlorine, bromine, iodine and fluorine.

9. The endoprosthesis of claim 8 wherein Y is hydrogen, x is from 0 to 2 and, when x is 1 or 2, R is chlorine.

10. The endoprosthesis of claim 8 wherein said stent is coated said poly-para-xylylene.

11. A stent-graft endoprosthesis comprising:
a seamless tubular non-textile graft of biocompatible polymeric material having a wall thickness defining a luminal surface and an exterior surface; and
a radially expandable stent securably disposed over a portion of said exterior surface;
wherein said polymeric material comprises a poly-para-xylylene having a formula of



wherein n is from about 10 to about 10,000,

x is from 0 to 4,

R, which can be the same or different, is alkyl, aryl, alkenyl, amino, cyano, carboxyl, alkoxy, hydroxylalkyl, carbalkoxy, hydroxyl, nitro, chlorine, bromine, iodine and fluorine, and

Y, which can be the same or different, is hydrogen, chlorine, bromine, iodine and fluorine.

12. The endoprosthesis of claim 11 wherein Y is hydrogen, x is from 0 to 2 and, when x is 1 or 2, R is chlorine.

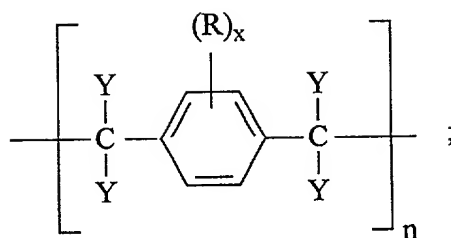
13. The endoprosthesis of claim 11 wherein said wall thickness is from about 10 microns to about 250 microns.

14. The endoprosthesis of claim 11 wherein said stent is coated with said poly-para-xylylene.

15. The endoprosthesis of claim 11 further comprising a second seamless tubular graft of said polymeric material having a wall thickness defining an interior surface and an exterior surface; wherein said second graft is securably disposed over said stent to form an outer polymeric cover thereover.

16. A method for producing a stent-graft endoprosthesis comprising:
providing a mandrel having a cylindrical outer surface;
depositing a poly-para-xylylene polymer onto a portion of said outer surface of said mandrel to form a tubular polymeric graft having a wall thickness defining a luminal surface and an exterior surface of said graft;
providing a radially expandable stent; and
securing portions of said stent to portions of said outer surface of said graft to form said stent-graft endoprosthesis.

17. The method of claim 16 wherein said poly-para-xylylene polymer comprises a polymer having a formula of



wherein n is from about 10 to about 10,000,

x is from 0 to 4,

R, which can be the same or different, is alkyl, aryl, alkenyl, amino, cyano, carboxyl, alkoxy, hydroxylalkyl, carbalkoxy, hydroxyl, nitro, chlorine, bromine, iodine and fluorine, and

Y, which can be the same or different, is hydrogen, chlorine, bromine, iodine and fluorine

18. The endoprosthesis of claim 17 wherein Y is hydrogen, x is from 0 to 2 and, when x is 1 or 2, R is chlorine.

19. The method of claim 16 further comprising:
coating said stent with said poly-para-xylylene polymer.

20. The method of claim 16 wherein said securing includes adhesive bonding, thermal fusing; solvent fusing and mechanical attaching.

21. The method of claim 16 wherein said depositing further comprises depositing said poly-para-xylylene polymer until said thickness is from about 10 microns to about 250 microns.

22. The method of claim 16 wherein said depositing further comprises:
providing a poly-para-xylylene source dimer material;
vaporizing said dimer material;
pyrolyzing said dimer material to yield poly-para-xylylene precursors;
vapor depositing said precursors onto said mandrel; and
polymerizing said precursors to yield said poly-para-xylylene polymer.

23. The method of claim 22 wherein said poly-para-xylylene precursors are selected from the group consisting of di-para-xylylene, di-chloro-di-para-xylylene, tetra-chloro-di-para-xylylene and combinations thereof; and further wherein said poly-para-xylylene polymer is selected from the group consisting of parylene C, parylene D, parylene N and combinations thereof.

24. The method of claim 16 further comprising removing said graft from said mandrel.

25. The method of claim 16 further comprising removing said stent-graft endoprosthesis from said mandrel.

26. The method of claim 16 said providing said radially expandable stent further comprises:

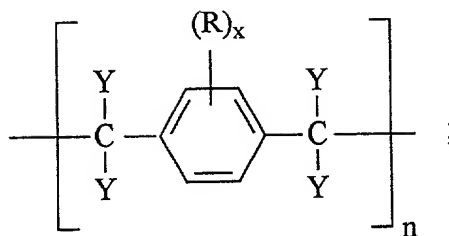
radially expanding said stent; and
positioning said radially expanded stent over said graft.

27. A method for producing a stent-graft endoprosthesis comprising:
providing a tubular graft of vacuum vapor deposited poly-para-xylylene polymer;
providing a radially expandable stent; and
securing portions of said stent to portions of said outer surface of said graft to form said stent-graft endoprosthesis.

28. The method of claim 27 wherein said polymer is selected from the group consisting of parylene N, parylene D, parylene C and combinations thereof.

29. An endoprosthesis comprising:
a seamless tubular non-textile graft of biocompatible polymeric material having a wall thickness of about 10 microns to about 250 microns defining a luminal surface and an exterior surface;

wherein said polymeric material is a poly-para-xylylene having a formula of



wherein n is from about 10 to about 10,000,

x is from 0 to 4,

R, which can be the same or different, is alkyl, aryl, alkenyl, amino, cyano, carboxyl, alkoxy, hydroxylalkyl, carbalkoxy, hydroxyl, nitro, chlorine, bromine, iodine and fluorine, and

Y, which can be the same or different, is hydrogen, chlorine, bromine, iodine and fluorine.

30. The endoprosthesis of claim 29 wherein Y is hydrogen, x is from 0 to 2 and, when x is 1 or 2, R is chlorine.

31. The endoprosthesis of claim 29 wherein said stent is coated said poly-para-xylylene.

32. An implantable graft device comprising:

a seamless and self supporting tubular non-textile graft of biocompatible polymeric material having a wall thickness of about 10 microns to about 100 microns and having opposed open ends to define a fluid passageway therebetween.